



Attorney Docket No. 004085.P030X

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Christopher Bajorek, et al.

Application No.: 10/659,006

Filed: September 9, 2003

For: Isothermal Imprinting

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) Examiner: M. Daniels.  
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) Art Group: 1732  
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Commissioner for Patents

PO Box 1450

Alexandria, Virginia 22313-1450

DECLARATION OF DAVID TREVES

UNDER 37 C.F.R. § 1.132

I, David Treves, hereby declare and say as follows:

I earned my B.Sc. degree in electrical engineering, Summa cum Laude, at the Technion, Israel Institute of Technology, in 1953. I earned an Ingenieur degree in electrical engineering at the Technion in 1954. I earned an M.Sc. degree in electrical engineering in 1956 at the Technion and a D.Sc. degree in electrical engineering in 1958 at the Technion.

For roughly the last fifty years I have worked in a number of research departments in the fields of electrical engineering and physics. Attached as Exhibit A is my curriculum vitae, listing my publications and previous positions. Although listed in Exhibit A, I mention here that I have served on the technical staff at Bell Telephone Laboratories, I was a fellow at IBM, I was a professor of Electronics at the Weizmann Institute of Science, and I worked as a scientist at

the Xerox Palo Alto Research Center. I am currently a Komag Fellow at Komag, Inc., the assignee of the present application.

I have published 125 technical papers and sixteen U.S. patents have been issued to me.

I have extensive experience in the field of magnetic recording disks and, also, in the manufacture of magnetic recording disks using embossing techniques. As such, I believe I am familiar with the prior art relating to the present invention and am familiar with the knowledge of one of ordinary skill in the art relating to the invention. I also understand the present invention.

The Examiner rejected claims 1, 2, 8, 10-12, 17, 20 and 22 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Publication No. 20020025408 of Davis ("Davis"). I understand that the Davis discloses:

Once the substrate has attained the desired temperature, it is placed in the mold and pressure is applied. After placing the substrate in the mold the temperature thereof can be **maintained**, increased or decreased as necessary in order to optimize replication and enable substrate release from the mold **while maintaining the integrity of the surface features**. Typically in order to maintain the integrity of the surface features, the molded substrate is cooled to below the glass transition temperature prior to removal from the mold. (Davis, paragraph 0075)(second sentence emphasis added).

I understand that it is the Examiner's position that the second sentence of paragraph [0075] of Davis pertains to the temperature at removal. More specifically, it is the Examiner's position that maintaining the integrity of the surface features in an embossing operation occurs during the removal of the mold from the substrate and, thus, the second sentence of paragraph [0075] of Davis pertains also to the removal step, and in at least one embodiment, the

temperature is maintained while removing the substrate from the mold. (Office Action, 1/24/07, page 12).

I believe the Examiner's reading of Davis to be incorrect. I am convinced that one of ordinary skill in the art would not find the second sentence of paragraph [0075] of Davis to pertain to the temperature at removal. Rather, one of ordinary skill in the art would understand the second sentence of paragraph [0075] of Davis to pertain to what may be done with the temperature immediately after the mold is brought into contact with the substrate.

In addition, I also believe that the third sentence of paragraph [0075] of Davis does not refer to an "alternative" embodiment as purported by the Examiner but, rather, is the next step in the same embodiment described by paragraph [0075]. One of ordinary skill in the art, when reading the entire paragraph [0075], would understand the third sentence of paragraph [0075] of Davis to explicitly teach that the molded substrate is cooled to below the glass transition temperature prior to removal from mold in order to maintain the integrity of the surface features. Furthermore, one of ordinary skill in the art, when reading the entire paragraph 0075, would understand the integrity of the surface features of the molded substrate can be affected by different steps in the molding operation and that maintenance of surface feature integrity is not affected only by removal operations but also by parameters at other operations such, for example, temperature before embossing, temperature and pressure at initial contact and applied pressure during compressing. Therefore, teachings that an operation maintains, or does not have an affect on, the integrity of the surface features does not, ipso facto, mean that such operation is a removal operation.

For at least the foregoing reasons, it is submitted that the Davis reference does not provide an anticipatory disclosure to one of ordinary skill in the art to which the invention pertains for claim 1 of the present application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful and false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: May 4, 2007 David Treves  
David Treves  
Komag Fellow  
Komag, Inc.



June 27, 1985

## CURRICULUM VITAE

Name : David Treves.  
Address : Weizmann Institute of Science, Rehovot, Israel.  
Date and Place of Birth : June 28, 1930, Italy.  
Citizenship : Israeli.  
Marital Status : Married, three children.

Education:

1950 - 1953 : Technion, Israeli Institute of Technology, Haifa, B.Sc.,  
Summa cum Laude, 1953.  
1954 : Ingenieur, Electrical Engineering, The Technion.  
1956 : M.Sc. Electrical Engineering, The Technion.  
1958 : D.Sc. Electrical Engineering, The Technion.

Work Experience:

1952 : Teacher of Physics and Mathematics, Agricultural High School,  
Caduriz.

1953 - 1957 : Grantee, Weizmann Institute of Science, Rehovot, Israel. De-  
signed Electronic instruments. Developed and studied experi-  
mentally and theoretically the magnet amplifier of the sec-  
ond harmonic type working with crossed magnetic field, and  
the use of ferrites for such amplifiers. Developed a clip-on  
milliammeter for dc currents, using a ferrite transducer and  
static reading head for tape recorders. Studied theoretical-  
ly and experimentally the instability regions of the second  
harmonic magnetic amplifiers and the possible use of such a  
device as a semi-active memory element.

1957 - 1959 : Research Assistant, Weizmann Institute of Science, Rehovot,  
Israel (Thesis). Worked on problems related to magnetization  
processes of ferromagnetic materials, such as the new field  
of micromagnetics and special domain configurations.

1959 - 1960 : Research Associate, Pomona College, Department of Physics.  
Worked on the theory of the coercive force in ferromagnetic  
materials.

Theoretical studies of the fine structures of Bloch walls.  
Developed a high resolution instrument for the micro-observa-  
tion of magnetic domains using the magneto-optic Kerr effect.  
Studied the theoretical limitation of the Kerr method. Ex-  
perimental study of the magnetization processes in iron  
whiskers under high fields.

EXHIBIT A

- 1960-1962: Member of the Technical Staff, Bell Telephone Laboratories, Inc., Murray Hill, N.J.  
Magnetic properties of stressed permalloys. Theoretical studies of magnetic structures. Determination of the magnetic interaction responsible for the weak ferromagnetism in orthoferrites.
- 1962-1963 Research Associate, Department of Electronics, The Weizmann Institute of Science, Rehovot, Israel. Measurement of magnetoelectric effect in  $\text{Cr}_2\text{O}_3$  powders. Theoretical study of optical properties of magnetic materials, and prediction of new optical effects. Research on magnetic properties of orthoferrites including magnetic rare earth ions.
- 1963-1965 Senior Scientist, Department of Electronics, The Weizmann Institute of Science, Rehovot, Israel.  
Mossbauer effect in magnetic materials. Superparamagnetism. Magnetization reversal in weak ferromagnets. Nonlinear magnetic effects in antiferromagnetics and weak ferromagnetics. Rare earth-iron interaction in orthoferrites.
- 1965-1966 On sabbatical leave as Member of Research Staff, Ampex Corp. Redwood City, California.
- 1966-1967 Associate Professor, Department of Electronics, The Weizmann Institute of Science, Rehovot, Israel, on leave of absence as Member of Research Staff, Ampex Corp., Redwood City, California. Mossbauer and magnetic studies of permanent magnet materials. Laser optics. Optical processing methods. Magneto optic-memory systems. Thermal diffusion in layered structures. Magneto-thermal recording.
- 1968-1972 Professor, Department of Electronics, The Weizmann Institute of Science, Rehovot, Israel.
- 1972-1973 On leave of absence at IBM, San Jose, California, as World Trade Exchange Fellow.
- 1973-1977 Professor, Department of Electronics, The Weizmann Institute of Science, Rehovot, Israel.
- 1977-1981 Head, Department of Electronics, the Weizmann Institute of Science, Rehovot, Israel.
- 1981-1982 On leave of absence at Optical Science Lab., Xerox Palo Alto Research Center, Palo Alto, California.

1982-1986

Head, Department of Electronics, the Weizmann Institute of Science, Rehovot, Israel.

1987 - 1995:

Komag Inc. Senior scientist.

1995 - present:

Komag Fellow. Led several projects from inception to completion. Examples are:

- Substrate manufacturing, coating, testing, packaging, marketing and customer support of rewritable optical disks.
- Laser Texture equipment and process of disks, including serialization.
- Optical Inspection equipment and processes of substrates and media.

### Professional Societies

Member:

Israel Physical Society

Optical Society of America

American Physical Society

The Society of Photo Optical Instrumentation Engineers

Fellow: International Institute of Electrical and Electronics Engineering.